

NEW YORK STATE CANAL CORPORATION
Earthen Embankment Integrity Program
SEQR Findings Statement

Pursuant to Article 8 of the Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR Part 617) (State Environmental Quality Review Act or "SEQR"), the New York State Canal Corporation (NYSCC), as lead agency, makes the following findings of fact and conclusions of law:

Name of Action: Earthen Embankment Integrity Program (EEIP)

Location: The New York State (NYS) Canal System which encompasses the modernized navigable inland waterways and additional properties under the jurisdiction of the New York State Canal Corporation that traverse upstate New York. The modernized NYS Canal System includes four canals: the Erie, Champlain, Oswego and Cayuga-Seneca. In addition to the modernized portion, NYSCC maintains jurisdiction over numerous systems of remnant canals, feeders, and reservoirs that were formerly developed as components of various canal systems in New York State that are no longer used for canal navigational purposes. The systems include what are commonly referred to as the northern and southern (east and west) reservoirs and feeder channels, the Old Champlain Canal, and some remnant portions of the Old Erie Canal. This NYS Canal System is depicted in the attached Figure 1. The EEIP will occur on any earthen embankments identified within this area.

Description: The proposed action is a comprehensive embankment maintenance program to restore, maintain and manage the integrity of earthen embankments within the NYS Canal System. The EEIP will require thorough, regular, and systematic inspections of canal and feeder embankments. This will be followed by prioritization and implementation of maintenance by embankment segment. Implementation will include the specific maintenance actions to address damaged linings, inadequate drainage, installing instrumentation, repairing surfacing, protecting embankment slopes, correcting embankment geometry deficiencies, removing inappropriate vegetation, filling animal burrows, and repairing seeps. The EEIP activities are documented in the "Embankment Inspection & Maintenance Guide Book." The *Guide Book* includes procedures to be applied in site-specific situations where the proposed EEIP activities may result in significant social, economic, and environmental impacts. These procedures involve working with local stakeholders to develop solutions/mitigation to the potential impacts.

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Purpose, Need and Benefit: The purpose of the EEIP is to restore the integrity of earthen embankments, a capital asset, and improve the NYSCC's continued ability to properly maintain embankments so that the risk to nearby people, property and the environment from flooding due to embankment failures is reduced. Without implementation of an embankment maintenance program, embankments will continue to be weakened by various forms of deterioration, and the NYSCC's ability to detect deficiencies will remain significantly impaired.

The need for the EEIP is to reduce the significant risk exposure presented by aging earthen embankments, and to better manage NYS Canal System assets by performing regular and periodic inspections, prioritizing corrective action and implementing maintenance.

The public benefits of the EEIP include:

- Reduction in the risk of life loss, and damage to private property, public infrastructure, utilities, and the environment. This will be accomplished by prioritizing embankment maintenance on the basis of condition, hazard classification and risk urgency.
- Better use of programmed maintenance dollars, by significantly reducing the percentage of the total capital and maintenance budgets devoted to emergency repair work.
- Greater availability of the canals and feeders for recreational use, commerce, and for other beneficial uses including irrigation as the frequency and extent of canal and railway closures will be significantly reduced.

Statutory Authority: New York State Canal Law authorizes the NYSCC to maintain in good condition the canal system.

Summary of SEQR Process: NYSCC completed Part 1 of a Full Environmental Assessment Form (FEAF) and sent it with a letter dated June 27, 2019, to potential involved and interested agencies as part of a coordinated review. As the state agency that is responsible for maintaining the NYS Canal System, the letter declared the intention of NYSCC to be the lead agency and requested the concurrence that NYSCC should be the lead agency. NYSCC then completed Parts 2 and 3 of the FEAF and determined that the proposed EEIP may have a significant adverse impact on the environment. In a letter dated October 23, 2019, NYSCC informed the potential involved and interested agencies that pursuant to 6 NYCRR Part 617, NYSCC is undertaking scoping of its EEIP to identify the issues to be addressed in a Draft Generic Environmental Impact Statement (GEIS). The Positive Declaration was also posted in the New York State Department of Environmental Conservation (NYSDEC) Environmental Notice Bulletin (ENB) on October 30, 2020.

A Draft Scoping document was prepared and sent to potential involved and interested agencies in a letter dated May 29, 2020. After a review of comments received, the Final Scoping document was completed, distributed and posted in the NYSDEC's ENB on February 3, 2021.

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As announced in NYSDEC's ENB, a Draft Generic Environmental Impact Statement (Draft GEIS) was made available for public comment. Two virtual public hearings were held on July 14, 2021 and four public meetings were held in Perinton, New York on September 20 and 21, 2021. The Public Comment Period was closed on October 15, 2021.

A Final Generic Environmental Impact Statement (Final GEIS) was filed on November 30, 2022.

FACTS AND CONCLUSIONS RELIED ON TO SUPPORT DECISION

Impacts and Mitigation: The Final GEIS contains the following analyses regarding the potential for impact from EEIP activities.

Land: Section 3.2 identifies the potential impacts to land and the water table from the EEIP activities of excavation and grading, stump removal, and construction of drainage blankets and toe drains. The cumulative impact over the years will result in the removal of natural material (primarily vegetation, but some topsoil and soils). Implementation of the EEIP would also change the ground cover of many of the earthen embankments to ground surfaces similar to meadow or lawn (see the summary of Section 3.7 below). This section also examines the potential for stormwater runoff from implementation of the EEIP. While the potential for impacts presented in Section 3.2.2 are unavoidable, Section 3.2.4 presents aspects of the EEIP that will minimize and mitigate such impacts, including the use of erosion and sediment controls during construction, restoration and stabilization of slopes following construction, and providing properly placed and compacted fill where natural material has been removed, with prompt revegetation at all excavated areas.

Geological Features and National Natural Landmarks: Section 3.3 identifies two National Natural Landmarks (NNLs) in the project area. The Moss Island NNL, having no earthen embankments, would not be affected by the EEIP, and the Montezuma Marshes NNL would be avoided.

Surface Waters and Wetlands: Section 3.4 examines the potential for impacts from EEIP activities on surface waters and wetlands that may be found adjacent to earthen embankments. It also examines potential impacts from the use of pesticides on embankment areas on those surface waters and wetlands. Overall, any permanent impacts to surface waters and wetlands would be localized and extended over distance and time. The impacts would be mitigated through coordination and permitting procedures of regulatory agencies. This includes the use of pesticides. The use of pesticides would not be a routine occurrence in the near or distant future. Such impacts would be unavoidable, but they would be minimized and mitigated on a site-specific basis in following regulatory practices required from permitting, including the use of licensed applicators.

Groundwater: Section 3.5 focuses on groundwater and aquifers related to earthen embankments, where Section 3.2 focuses on the water table in and adjacent to earthen

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embankments. The section concludes that the potential for impacts resulting from EEIP activities on groundwater levels and contamination outside the canal right-of-way are expected to be insignificant.

Floodplains: Section 3.6 examines the potential for impact to floodplains where EEIP activities would occur in or adjacent to floodplain areas. The section concludes that the potential adverse impacts would range from Negligible to Minor Adverse and would be site-specific. The impacts would also be spread out over time. There are no EEIP activities allowed where potential effects would impair the beneficial floodplain resources of New York State traversed by the embankment portions of the canal.

Ecology (Plants and Animals): Section 3.7 discusses potential effects of EEIP activities on plants and animals, and particularly on rare, threatened and endangered (RTE) species. The section includes a discussion of the loss of woody vegetation, habitat corridor fragmentation and the use of pesticides. An analysis was conducted on 130 miles of identified earthen embankment using Geographic Information System (GIS) software to estimate the change in land cover type as a result of EEIP activities. The section concludes that EEIP activities would result in habitat loss for some wildlife, particularly in fragmenting habitat corridors currently on the earthen embankments. The extent of such impacts would depend on the adjacent habitat to any site-specific earthen embankment. Over time and the distance over which the EEIP will be applied, there is a potential for significant impacts to plants and animals. Minimization and mitigation for potential impacts to RTE species would involve consultations with regulatory agencies. The Land Cover Analysis concludes that implementation of the EEIP would cause a 0.041 percent shift in land cover over time relative to a County-wide perspective and indicates that species responding to converted habitat would have habitat left that it could move to.

Agricultural Resources: Section 3.8 discusses the potential for impacts to agricultural resources from implementation of the EEIP. The section concludes that the magnitude for impacts from most EEIP activities is low, and the likelihood of impacts is also low. Planning and coordination with adjacent farmers (as documented in Sections 9 and 10 of the *Guide Book*) regarding the best means and timing of access to embankments would help to avoid or minimize the potential for temporary impacts to agricultural resources resulting from impaired access.

Aesthetic Resources: Section 3.9 states that the EEIP activity of vegetation removal on affected embankments has the potential to change the visual quality of the canal corridor, which could lead to change or degradation of aesthetic and natural character, and degradation of outdoor recreational experiences. It goes on to discuss how the EEIP has been developed to diminish the risk of failure of the earthen embankments while preserving the aesthetic and natural character where appropriate and possible to do so in a manner that minimizes residual risk to adjacent communities; however, it would not be possible to avoid or adequately mitigate all potential impacts to visual resources while assuring the stability and safety of the earthen embankments. Mitigation would be developed on a site-specific basis using procedures described in Sections

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8-10 of the *Guide Book*. Unmitigable significant impacts to identified aesthetic resources would not be allowed under the EEIP.

Historic and Archaeological Resources: Section 3.10 describes the NYSCC Historic Properties Management Plan and the procedures used to protect the historic resources in the New York State Barge Canal National Historic Landmark and other protected resources. There is limited potential for impacts to historic resources from implementation of the EEIP, since most of the resources are structures, and the EEIP pertains to earthen embankments. Any potential impacts to historic structures would be minimized such that the EEIP activities would have “No Adverse Impact/Effect” on historic resources.

Open Space and Recreational Resources: Section 3.11 focuses on potential impacts to associated multi-use trails, such as the Empire State Trail, as well as formal and informal recreational uses on or immediately adjacent to the EEIP project area. A discussion of impacts to aesthetic resources associated with these recreational uses is provided in Section 3.9. The discussion in Section 3.11 includes temporary disruption of trail and other recreational activities. These impacts would be minimized through timing and planning for the implementation of any disrupting EEIP activities.

Transportation Resources: Section 3.12 discusses potential impacts to waterway navigation on the canal, pedestrian and bicycle traffic on associated trails, and state, county and local roads adjacent to the EEIP project area. The EEIP activities may include temporary changes to existing pedestrian or bicycle accommodations; temporary changes to Canal System navigation; and temporary detours of vehicular traffic in order to carry out the EEIP. Minimization of temporary closures can be accomplished by scheduling trail or navigation closures for the minimum time necessary for accomplishing the work and allowing public access to the work area to resume under safe conditions.

Noise, Odor and Light: Section 3.13 includes a discussion of noise, odor and light that may be affected by implementation of the EEIP. Removal of vegetation has the potential to increase audibility of sound and visibility of light from existing sources. Effects on odors is discussed in this section, but the potential effects on odors from implementation of the EEIP is judged to be negligible. The analysis shows how, although relatively permanent, indirect noise increases resulting from removal of dense vegetation cannot be avoided or minimized, removal of up to 200 feet of tall, dense vegetation has been demonstrated to be unnoticed to tolerable. There may be unique situations where the line of sight between a noise source and receiver could exceed 200 feet. This may result in unavoidable impacts that cannot be attenuated or mitigated. In locations on specific projects where an artificial light pollution evaluation determines that the effects of dense vegetation removal are significant, prescribed mitigation measures will be evaluated. Such measures include replacement vegetation in appropriate locations.

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There is also a potential for temporary noise impacts from equipment performing EEIP activities. Temporary noise mitigation techniques may be applied including:

- Reduce noise frequency and impulse noise at the source of generation by:
 - Replacing back-up beepers on machinery with strobe lights (subject to other requirements, e.g., OSHA and MINE Safety and Health Administration, as applicable). This eliminates the most annoying impulse beeping.
 - Use appropriate mufflers to reduce the frequency of sound on machinery that pulses, such as diesel engines and compressed air machinery.
 - Changing equipment: using electric motors instead of compressed air driven machinery; using low speed fans in place of high-speed fans.
 - Modifying machinery to reduce noise by using plastic liners, flexible noise control covers, and dampening plates and pads on large sheet metal surfaces.
- Reduce noise duration by:
 - Limiting the number of days of operation, only working during business days and non-holidays, and restricting the hours of operations between 7 a.m. and 6 p.m. can reduce noise increases.
- Reduce noise sound pressure levels by:
 - Increasing setback distances
 - Moving equipment during operations further from noise sensitive receptors
 - Substituting quieter equipment
 - Using mufflers selected to match the type of equipment and air or gas flow on mechanical equipment
 - Ensuring that equipment is regularly maintained
 - Phasing operations to preserve natural barriers as long as possible.

Human Health: Section 3.14 discusses how NYSCC would identify, address, and mitigate potential impacts to public and to worker health during EEIP activities. Potential impacts of EEIP activities may include worker and/or public exposure to impacted and/or hazardous or contaminated material in the vicinity of EEIP activities. However, this potential adverse effect would be prevented by completion of due diligence prior to commencement of EEIP activities.

Community Plans: Section 3.15 points out that the NYSCC is not subject to procedural or substantive requirements of Community Plans, local laws, etc., as complying with hundreds of different local laws would make maintaining earthen embankments in a safe manner impossible and unduly prejudices the NYSCC when it comes to implementing its statutory authority. However, the activities of federal, state, and local government are required to be consistent in communities where a locally adopted Local Waterfront Revitalization Program (LWRP) has been approved by the Secretary of State. The section discusses how community plans can provide guidance to assess potential impacts; and help in identifying where mitigation measures may be important to consider and incorporate into the implementation of the EEIP in a specific location. NYSCC will assess whether site specific proposed earthen embankment maintenance activities

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may have the potential for significant adverse impacts on areas that have been identified as part of a Community Plan. These identified areas will be given consideration for the NYSCC to avoid, minimize or mitigate to the extent practicable.

Community Character: Section 3.16 describes community character as the cultural landscape of the canal corridor, as defined by the National and State Heritage Areas, and composed of the geographic areas associated with specific events, activities, or people. It concludes that removal of trees and/or vegetation would not have a significant impact to the corridor as a cultural landscape. Other EEIP activities involving earthwork and filter blankets would not significantly alter the slopes of the canal and feeder embankments and thus would have an insignificant effect on the cultural landscape and community character.

Unavoidable Adverse Impacts: The Final GEIS considers the likelihood of adverse environmental impacts of the EEIP's full implementation. The EEIP addresses these potential impacts and provides for mitigation steps, and opportunities for NYSCC to consider alternatives. However, activities implemented in accordance with the *Guide Book* may pose unavoidable adverse impacts. The risk of unavoidable adverse impacts from an area of earthen embankments consider not just a single event, which may or may not have an unavoidable impact, but looks at the likelihood of the program's implementation (any action under the EEIP) having an unavoidable impact over the entirety of NYSCC's earthen embankments for the duration of the EEIP. In the previous section the potential impacts for significant adverse impacts are summarized. In specific embankment locations where there are significant impacts that cannot be mitigated or avoided after the procedures in Sections 8-10 of the *Guide Book*, they would no longer fall under the EEIP, and would be evaluated as a separate project under SEQR. There would therefore be little likelihood of unavoidable adverse impacts.

Irreversible and Irrecoverable Commitment of Resources: Implementation of the EEIP would result in irreversible and irretrievable commitments of time, energy, and a range of natural, physical, human, and fiscal resources. Irrecoverable resources that would be committed for the EEIP include:

- Fossil fuels and materials used in clearing and restoration of the earthen embankments;
- Labor used in the EEIP activity including the construction activities above and for the maintenance in subsequent years;
- Continued commitment of land for use as earthen embankments and minor areas of increases in land where embankments need to be extended; and
- The EEIP would also require continued expenditure of funds that is not retrievable.

The EEIP would result in the loss of existing vegetation. It may also result in the minor loss of surface waters, wetlands and habitat in some locations, but these losses would be mitigated. The EEIP also has the potential to affect aesthetic resources and recreation. However, such commitments would be identified in site-specific environmental analyses consistent with the

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process set forth in the GEIS and *Guide Book* and avoided or minimized in accordance with applicable laws and regulations, as discussed in Section 8 of the *Guide Book*.

While the EEIP would result in irreversible and irretrievable commitments of resources, the resources are not in short supply. Furthermore, the overall benefits outweigh these commitments. Initial consumption of materials and energy in clearing embankments, would allow minimal use of energy in maintaining the embankments in future years. This would be a more efficient use of resources and build more sustainability into the canal system. The EEIP would maintain the safety and reliability of the earthen embankments, which would benefit users of the canal as well as reduce the risk of embankment failure to adjacent and downstream properties.

Future Actions: Implementation of the EEIP would result in the application of the activities presented in the *Guide Book*. The specific activities in any individual location would vary. Over time, the prevalence of the activities would shift from repair activities to earthen embankments to maintaining the earthen embankments. The EEIP activities applied to individual embankment sections should be consistent with criteria and thresholds specified in the *Guide Book*. Where there are significant impacts that cannot be mitigated, further SEQR actions will be required.

Impacts and Alternatives Balancing Analysis: The potential impacts of the proposed action of implementing the EEIP were weighed against the purpose, need and benefit of the project. Also, alternatives considered in the Generic EIS include the Null or No-Action Alternative and the Ad-Hoc Alternative. The Null Alternative assumes minimal effort by NYSCC to meet its statutory duties regarding earthen embankment maintenance. NYSCC is required by law to perform annual inspections of the Canal System and maintain the Canal System in good condition, which includes the earthen embankments. This approach does not adequately address the risks posed by the current earthen embankment conditions. The Ad-Hoc Alternative is a project-by-project approach, which lacks clearly defined, cohesive planning processes to ensure long-term integrity of earthen embankments. Four other alternatives were formulated, considered, and dismissed from further consideration, as they were not practicable. These included an alternative to drain and permanently abandon the canal, an alternative to install a continuous membrane along the canal and feeder prisms, an alternative to install continuous cutoff walls along the embankment crests, and an alternative to clear cut all embankment trees and vegetation.

Potential impacts resulting from the Null and Ad-Hoc alternatives were examined in the Generic EIS. Most of the potential impacts described above would be avoided by the Null Alternative, but this alternative would pose an unacceptable risk of a failed embankment with potential impacts to life, property and environmental resources. The Ad-Hoc would result in the same potential for impact as the EEIP distributed over different time frames. It would also result in more emergency repairs, which would add to the impacts and to the cost for that repair. This would impair the NYSCC from addressing other priority embankments in a timely manner.

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In considering the balance of the impacts described in the Generic EIS with social, economic and other considerations, the heaviest weight against these impacts and other alternatives is that the EEIP reduces the risk for embankment failure. The benefits to public safety outweigh the potential environmental impacts identified.

CONCLUSION

The Generic EIS provided analyses regarding the potential for impact from EEIP activities on Land, Geologic Features and National Natural Landmarks, Surface Waters and Wetlands, Groundwater, Floodplains, Ecology (Plants and Animals), Agricultural Resources, Aesthetic Resources, Historic and Archaeological Resources, Open Space and Recreational Resources, Transportation Resources, Noise, Odor, Light, Human Health, Community Plans, and Community Character. Potential significant impacts were identified and avoidance, minimization and mitigation of these impacts were presented for those impacts. Individual EEIP segments would be screened, and those that would cause significant environmental impacts would be mitigated. Any individual EEIP segments that could not be mitigated would require a supplemental SEQR review or a separate SEQR review.

The Null or No-Action Alternative and the Ad-Hoc Alternative – Project-By-Project Approach were reviewed for the same topics. The Null Alternative was unacceptable as it would not allow the NYSCC to address the risks posed by current earthen embankment conditions. It was concluded that the Ad-Hoc Alternative would have the same or more severe impacts, since more of the work under this alternative would be performed on an emergency basis during the navigation season.

Finally, any environmental impacts must be balanced with the benefit of the project to lower the risk of the earthen embankments to public safety.

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CERTIFICATION TO APPROVE AND UNDERTAKE

Having considered the draft and final Generic Environmental Impact Statement and having considered the preceding written facts and conclusions relied on to meet the requirements of 6 NYCRR Part 617.11, this Statement of Findings certifies that:

1. The requirements of 6 NYCRR Part 617 have been met; and
2. Consistent with social, economic and other essential considerations from among the reasonable alternatives available, the action is the one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and that adverse impacts will be avoided or minimized to the maximum extent practicable by incorporating as conditions to the decision those mitigative measures that were identified as practicable.
3. (And if applicable) Consistent with the applicable policies of Article 42 of the Executive Law, as implemented by 19 NYCRR Part 600.5, this action will achieve a balance between the protection of the environment and the need to accommodate social and economic considerations.

New York State Canal Corporation



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Figure 1 – Extent of Canal System Subject to EEIP